

REMARKS

Applicants respectfully request reconsideration of the present application in view of the foregoing amendments and in view of the reasons that follow.

This amendment adds, changes and/or deletes claims in this application. A detailed listing of all claims that are, or were, in the application, irrespective of whether the claim(s) remain under examination in the application, is presented, with an appropriate defined status identifier.

Claims 1 and 13-14 are currently being amended. Claims 15-16 are being added. Support for amendments and new claims can be found throughout the Specification and the original claims, for example in original claim 7. No new matter is added. No new search is needed.

After amending the claims as set forth above, claims 1, 3, 5, 7-8, 11, 13-16 are now pending in this application.

I. Claim Objections

Claims 13 and 14 are objected.

Claims 13 and 14 are amended to overcome the rejection without prejudice. No new matter is added. By way of this Reply, the claim objections are now moot.

II. Claim Rejections under 35 U. S. C. § 112

Claim 4 is rejected under 35 U.S.C. 112, second paragraph.

Claim 4 is cancelled without prejudice. By way of this Reply, the section 112 rejection of claim 4 is now moot.

III. Claim Rejections under 35 U. S. C. § 103

Claims 1, 3-8, 11, and 13-14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Botti (Botti et al., WO 03/016330) in view of Roelant (Roelant et al., U.S. 5,998,128). Applicants respectfully traverse for at least the reasons that follow.

Independent claims 1 and 13-14 are amended to recite that “... A is - NH- NH- CO- (CH₂)_n- NH-, wherein n represents 1-10.”

A. Botti fails to teach and indeed teaches away from the claimed invention

Botti teaches porphyrin-based molecular linkers as shown below (Botti, Figures. 2a and 2b).

Fig. 2a

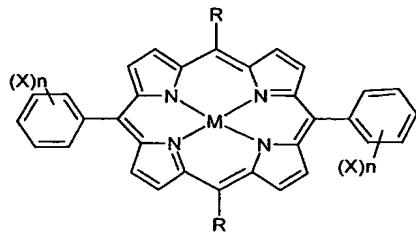
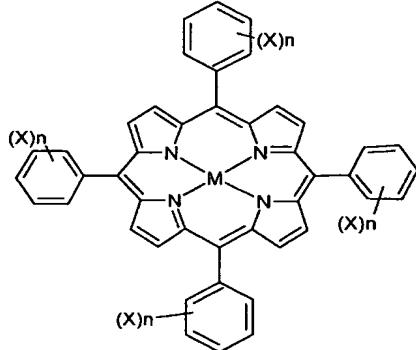


Fig. 2b



Applicants respectfully submit that linkers as shown in Figures 2a-2b are different from the linker recited in claims 1 and 13-14, both chemically and structurally. Indeed, throughout its disclosure, Botti fails to teach a linker of “- NH- NH- CO- (CH₂)_n- NH-, wherein n represents 1-10,” as recited in claims 1 and 13-14.

Further, in order to ensure stable conformation of the final products (e.g., the conformation of a core-strptavidin tetramer as shown in Figure 8 of Botti), Botti would in fact *require* a rigid linker as shown in Figures 2a-2b of Botti. In other words, one of ordinary skill in the art would *not* modify Botti by replacing the rigid linker of Botti with the linkers recited in the independent claims, since such a modification of Botti may render Botti's invention unsatisfactory for its intended purpose.

B. Botti and Roelant, even if combined, fail to teach the claimed invention

The Office Action alleges that "Based on the teachings above it would have been *prima facie* obvious for one of ordinary skill in the art at the time the invention was made to substitute a porphyrin such as hem b or a similar derivative thereof (e.g., hem a, hem c, etc.) into the biotin-linked compound described by Roelant and consequently use this compound in one of the processes described above (e.g., purifying or quantifying proteins, in particular hemoproteins) since one of ordinary skill is aware that heme readily binds to said proteins. Therefore, the claims are obvious." Applicants respectfully traverse for at least the reasons that follow.

Botti teaches "porphyrin-based molecular linkers" to link moieties capable of specifically binding a molecule-of-interest (e.g., single-chain Fv) and the binding site for attachment of a Strep-tag or a biotin moiety (*see* Botti, Page 28, Lines 21-25, and Figure 8).

On the other hand, Roelant teaches heme b as a moiety capable of binding a molecule-of-interest.

Thus, if Botti is modified by the teaching of Roelant as alleged by the Office Action, the modified Botti would have used a heme b (as a moiety capable of binding a molecule-of-interest) linked to a biotin by the porphyrin-based molecular linker of Botti, *rather than* a heme b linked to a biotin by a amino group-containing hydrocarbyl linker as recited in claims 1 and 13-14.

For these reasons, Applicants respectfully submit that one of ordinary skill in the art would not have made the modification suggested in the Office Action.

Claims 3, 5, 7-8 and 11 depend from claim 1, and thus are patentable for at least the same reasons as claim 1.

Applicants respectfully request withdrawal of the rejections for at least the reasons as explained above.

IV. New claims 15-16

Newly added claims 15-16 depend from claims 13-14, respectively. Thus, claims 15-16 are patentable for at least the same reasons as the corresponding independent claim thereof.

V. Conclusion

Applicants believe that the present application is now in condition for allowance. Favorable reconsideration of the application as amended is respectfully requested.

The Examiner is invited to contact the undersigned by telephone if it is felt that a telephone interview would advance the prosecution of the present application.

The Commissioner is hereby authorized to charge any additional fees which may be required regarding this application under 37 C.F.R. §§ 1.16-1.17, or credit any overpayment, to Deposit Account No. 19-0741. Should no proper payment be enclosed herewith, as by a check being in the wrong amount, unsigned, post-dated, otherwise improper or informal or even entirely missing or a credit card payment form being unsigned, providing incorrect information resulting in a rejected credit card transaction, or even entirely missing, the Commissioner is authorized to charge the unpaid amount to Deposit Account No. 19-0741. If any extensions of time are needed for timely acceptance of papers submitted herewith,

Applicants hereby petition for such extension under 37 C.F.R. §1.136 and authorize payment of any such extensions fees to Deposit Account No. 19-0741.

Respectfully submitted,

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By 

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